

BEST AVAILABLE COPY

REMARKS

Claims in the Application. Claims 16-17, 24 and 56 have been cancelled from this application. Claims 1, 10, 13, 14, 22, 39, 40, 54 and 57 have been amended. Accordingly, Claims 1-15, 18-23, 25-55 and 57 are active in this application.

Examiner's Rejection Over *Darlington* and *Barthrope*. The Examiner has rejected Claims 1-5, 8, 10, 11, 13-15, 27, 52 and 53 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,465,598 ("*Darlington*") in view of U.S. Patent No. 5,302,297 ("*Barthrope*").

Darlington discloses a process for removing heavy metals from brine by the addition of an oxidizing agent which forms a water insoluble compound of the oxidized metal. *Darlington* does not disclose the removal of metals from brine by the use of a chelating agent.

Barthrope fails to cure the deficiencies of *Darlington*. *Barthrope* is directed to a treatment process for removing scale-forming inorganic salts from aqueous brines. An "interfering agent" is added to the brine (which contains dissolved salts and scale inhibitor(s)). The "interfering agent . . . disrupts the function of the scale inhibitor, thereby enabling accelerated crystal growth of the inorganic salt in the brine and formation of an insoluble inorganic salt precipitate" (col. 2, ll. 3-30).

In Applicants' invention, the organic chelant forms a complex with metal; the complex metal precipitate is then removed from the brine. A complex metal precipitate is not formed in *Barthrope*. Instead, in *Barthrope*, the precipitate is an inorganic salt. Note, for instance, the recitation of the barium sulfate precipitate in brine, as set forth in Example 1 (col. 5, ll. 46-50).

Note further col. 4, ll 8-16 of *Barthrope*:

The physical and chemical character of the interfering agent renders it reduces sufficiently labile to rapidly skip between a large number of growth sites on the crystal surface alternately absorbing and desorbing from these sites. In doing so, the interfering agent prevents the inhibitor from reaching the growth sites to block

crystal growth, thereby permitting crystal growth to proceed beyond the threshold size required for precipitate formation at a substantially full pace.

Thus, it is the inorganic salt crystals of *Barthrope* which precipitate out of the brine solution; not a complex metal precipitate of an organic chelant and metal. Even if it were obvious to combine *Darlington* and *Barthrope*, which it is not, such combination would not render the claimed invention of Applicants directed to the precipitation of a complex metal. Reconsideration is therefore respectfully requested.

Examiner's Rejection Over *Darlington*, *Barthrope* and *Dobson*. The Examiner has further rejected Claim 6 under 35 U.S.C. § 103(a) as being unpatentable over *Darlington* in view of *Barthrope* and further in view of U. S. Patent No. 5,783,527 ("*Dobson*"). This ground for rejection is also traversed.

Dobson is directed to the use of a peroxide to degrade polymers in a filter cake. *Dobson* fails to disclose the deficiencies of *Barthrope*, cited *supra*. The rejection is therefore traversed.

Examiner's Rejection Over *Darlington*, *Barthrop*, *Dobson* and *Skee*. The Examiner has further rejected Claim 7 under 35 U.S.C. § 103(a) as being unpatentable over *Darlington* in view of *Barthrope* and *Dobson* and further in view of U.S. Patent No. 5,989,353 ("*Skee*"). This ground for rejection is also traversed.

Skee merely discloses the use of benzoic acid as a metal chelant. However, *Skee* is directed to non related art and there is no reason why one of ordinary skill in the art would have been motivated to combine *Skee* with *Dobson*, *Barthrope* and *Darlington*. In any event, *Skee* fails to cure the deficiencies of *Barthrope*, discussed *supra*.

Examiner's Rejection Over *Darlington*, *Barthrope* and *Skee*. The Examiner has further rejected Claims 9, 12, 20-23, 27, 31-33 and 46 under 35 U.S.C. § 103(a) as being unpatentable over *Darlington* in view of *Barthrope* and further in view of *Skee*. This ground for rejection is also traversed.

As indicated *supra*, *Skee* is directed to non-analogous art and further fails to cure the deficiencies of *Barthrope*. Reconsideration is therefore respectfully requested.

Examiner's Rejection Over *Darlington*, *Barthrope* and *Crudden*. The Examiner has further rejected Claims 15-19 and 39 under 35 U.S.C. § 103(a) as being unpatentable over *Darlington* in view of *Barthrope* and further in view of U.S. Patent No. 5,821,215 ("*Crudden*"). This ground of rejection is likewise traversed.

Crudden merely discloses the use of certain organic chelants. However, *Crudden* is directed to non-analogous art and there is no reason why one of ordinary skill in the art would have been motivated to combine *Crudden* with *Darlington* and *Barthrope*. In any event, *Crudden* fails to disclose the deficiencies of *Barthrope*. The rejection is therefore traversed.

Examiner's Rejection Over *Darlington*, *Barthrope*, *Crudden* and *Simon*. The Examiner has further rejected Claims 55 under 35 U.S.C. § 103(a) as being unpatentable over *Darlington* in view of *Barthrope* and *Crudden* and further in view of U.S. Patent No. 4,507,208 ("*Simon*"). *Simon* merely discloses the use of activated charcoal in drilling fluids. *Simon* does not cure the deficiencies of *Barthrope*. Thus, this ground for rejection is traversed.

Examiner's Rejection Over *Darlington*, *Barthrope* and *Amiya*. The Examiner has further rejected Claims 24 and 46 under 35 U.S.C. § 103(a) as being unpatentable over *Darlington* in view of *Barthrope* and further in view of U.S. Patent No. 6,335,398 ("*Amiya*"). Like the other tertiary references discussed *supra*, *Amiya* fails to disclose the deficiencies of *Barthrope*. The rejection is therefore traversed.

Examiner's Rejection Over *Darlington*, *Barthrope* and *Amano*. The Examiner has further rejected Claim 29 under 35 U.S.C. § 103(a) as being unpatentable over *Darlington* in view of *Barthrope* and further in view of U.S. Patent No. 4,908,080 ("*Amano*"). *Amano* merely discloses the use of diaminobenzene as a chelant in an emulsion explosive. *Amano* is directed to non-

analogous art and further does not cure the deficiencies of *Barthrope*. The rejection is therefore traversed.

Examiner's Rejection Over *Darlington*, *Barthrope* and *Nagai* The Examiner has further rejected Claim 30 under 35 U.S.C. § 103(a) as being unpatentable over *Darlington* in view of *Barthrope*, and further in view of U.S. Patent No. 4,559,216 ("*Nagai*"). *Nagai*, directed to non-analogous art, discloses iminobis (methylenephosphonic acid) or a salt or ester as a chelating resin. *Nagai* does not cure the deficiencies of *Barthrope*. The rejection is therefore traversed.

Examiner's Rejection Over *Darlington*, *Barthrope* and *Kawasaki* The Examiner has further rejected Claims 31, 32, 34-37, 41 and 43-45 under 35 U.S.C. § 103(a) as being unpatentable over *Darlington* in view of *Barthrope* and further in view of U.S. Patent No. 6,139,973 ("*Kawasaki*"). Like the other tertiary references discussed *supra*, *Kawasaki* is drawn to non-analogous art and does not cure the deficiencies of *Barthrope*. The rejection is therefore traversed.

Examiner's Rejection Over *Darlington*, *Barthrope* and *Anderson* The Examiner has further rejected Claims 37 and 38 under 35 U.S.C. § 103(a) as being unpatentable over *Darlington* in view of *Barthrope* and further in view of U.S. Patent No. 6,758,967 ("*Anderson*"). *Anderson* is directed to an ion exchange chromatography apparatus wherein a heterocyclic chelant is employed. *Anderson* is drawn to non-analogous art and does not cure the deficiencies of *Barthrope*. As a result, the rejection is traversed.

Examiner's Rejection Over *Darlington*, *Barthrope* and *Horton* The Examiner has further rejected Claims 48 and 49 under 35 U.S.C. § 103(a) as being unpatentable over *Darlington* in view of *Barthrope* and further in view of U.S. Patent No. 5,211,859 ("*Horton*"). *Horton* discloses the use of di- and polyketone-containing compounds to chelate aluminum. *Horton*, however, does not cure the deficiencies of *Barthrope*. The rejection is traversed.

Examiner's Rejection Over *Darlington*, *Barthrope* and *Horiguchi*. The Examiner has further rejected Claims 50 and 51 under 35 U.S.C. § 103(a) as being unpatentable over *Darlington* in view of *Barthrope* and further in view of U.S. Patent No. 4,317,882 ("*Horiguchi*"). *Horiguchi* is directed to non-analogous art and does not cure the deficiencies of *Barthrope*. The rejection is therefore traversed.

Examiner's Rejection Over *Darlington*, *Barthrope* and *Simon*. The Examiner has further rejected Claims 54 and 57 under 35 U.S.C. § 103(a) as being unpatentable over *Darlington* in view of *Barthrope* and further in view of *Simon*. As stated *supra*, *Simon* does not cure the deficiencies of *Barthrope*. The rejection is therefore traversed.

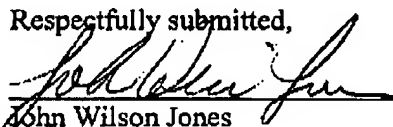
Examiner's Rejection Under the Judiciary Created Doctrine of Obviousness-type Double Patenting. The Examiner has further rejected Claims 1-5, 8, 15-19, 39, 40 and 52-57 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-27 of co-pending application No. 11/145,281. Upon indication of allowable subject matter, Applicants will file a Terminal Disclaimer.

The Examiner's Rejection Under 35 U.S.C. § 112. The Examiner has further rejected Claims 1-57 under the second paragraph of 35 U.S.C. § 112. The amendment to the claims obviates the need for further discussion of this rejection.

Conclusions. The Examiner is requested to telephone the undersigned should he deem it prudent to expedite the prosecution to this application. In view of the foregoing amendment and remarks, it is submitted that this application is in condition for allowance. Early notice to that affect is earnestly solicited.

Dated: December 20, 2005

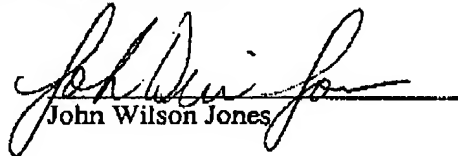
Respectfully submitted,


John Wilson Jones
Registration No. 31,380

JONES & SMITH LLP
The Riviana Building
2777 Allen Parkway, Suite 800
Houston, Texas 77019
Telephone No.: (713) 528-3100
Facsimile No.: (713) 893-6076

CERTIFICATE OF TRANSMISSION, 37 C.F.R. § 1.6(d)

I hereby certify that this correspondence is being transmitted by facsimile, 571 273-8300, to Examiner Peter A. Hruskoci c/o Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia 22313-1450 on this the 20th day of December 2005.


John Wilson Jones

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☒ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.